

ABSTRACT

A continuous sheet having a combination of acidic and basic water-absorbing resin particles that are essentially not neutralized and can be continuously manufactured on conventional papermaking apparatus, using a wet, dry, or wet-dry process to manufacture a water-absorbent sheet-like substrate containing 50%-100% by weight of the combination of acidic and basic water-absorbent particles. The acidic and basic essentially unneutralized resins can be contained in the sheet material articles of the present invention as separate acidic and basic resin particles, or as multicomponent particles containing both the acidic and basic resins. The sheet materials can be manufactured having new and unexpected structural integrity, with little or no shakeout or loss of superabsorbent particles during or after manufacture while exhibiting exceptional water absorption and retention properties. The sheet materials have an ability to absorb liquids quickly, demonstrate good fluid permeability and conductivity into and through the resin particles, and have a high gel strength such that the hydrogel formed from the SAP particles resists deformation under an applied stress or pressure, when used alone or in a mixture with other water-absorbing resins.